

Application No. 10/669,580  
Response to Office Action

Customer No. 01933

**Listing of Claims:**

Claims 1-6 (Canceled).

7. (New) A logarithmic graph plotting apparatus comprising:  
a range setting unit for setting an x-coordinate range for a  
graph ranging from an arbitrary x-minimum value to an arbitrary  
x-maximum value, and a y-coordinate range for the graph ranging  
5 from an arbitrary y-minimum value to an arbitrary y-maximum  
value;

a logarithmic axis setting unit for selecting whether to set  
at least one of x- and y-axes as corresponding logarithmic x- and  
y-axes;

10 an x-logarithmic scale number determining unit for, when the  
x-axis is selected to be set as the logarithmic x-axis,  
determining a number of logarithmic scales for the x-axis, based  
on a number obtained by calculating a difference between a  
logarithm of the x-minimum value and a logarithm of the x-maximum  
15 value and converting the calculated difference to an integer;

an x-logarithmic scale plotting unit for plotting the  
determined number of logarithmic scales for the x-coordinate  
range;

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20 a y-logarithmic scale number determining unit for, when the  
y-axis is selected to be set as the logarithmic y-axis,  
determining a number of logarithmic scales for the y-axis, based  
on a number obtained by calculating a difference between a  
logarithm of the y-minimum value and a logarithm of the y-maximum  
value and converting the calculated difference to an integer;  
25 a y-logarithmic scale plotting unit for plotting the  
determined number of logarithmic scales for the y-coordinate  
range; and  
a logarithmic graph plotting unit for plotting on a display  
screen a logarithmic graph corresponding to the plotted  
30 logarithmic scales corresponding to the selected at least one of  
the x- and y-axes.

8. (New) The logarithmic graph plotting apparatus according  
to claim 7, wherein the range setting unit comprises a unit for  
displaying on the display screen a range setting image in which  
the x-minimum value and the x-maximum value of the x-coordinate  
5 range and the y-minimum value and the y-maximum value of the y-  
coordinate range are indicated;

wherein the logarithmic axis setting unit comprises a  
displaying unit for displaying on the display screen a  
logarithmic axis setting image including items for selecting

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10 whether to set each of the x- and y-axes as the corresponding logarithmic x- and y-axes; and

wherein the range setting image and the logarithmic axis setting image are displayed on the display screen in parallel.

9. (New) The logarithmic graph plotting apparatus according to claim 8, further comprising a unit for indicating an error when at least one of the x- and y-axes is selected to be set as the corresponding logarithmic x- and y-axes in the logarithmic  
5 axis setting image, and when a value in the at least one of the x- and y-coordinate ranges corresponding to the selected at least one of the x- and y-axes is not positive in the range setting image.

10. (New) The logarithmic graph plotting apparatus according to claim 7, wherein the logarithmic scales comprise a straight line extending from each of the logarithmic scales.

11. (New) The logarithmic graph plotting apparatus according to claim 7, wherein the items in the logarithmic axis setting image for selecting whether to set each of the x- and y-axes as the corresponding logarithmic x- and y-axes comprise check boxes.

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12. (New) A computer-readable recording medium having a logarithmic graph plotting program stored thereon for controlling a computer of a graph plotting apparatus, the program causing the computer to function as:

a range setting unit for setting an x-coordinate range for a graph ranging from an arbitrary x-minimum value to an arbitrary x-maximum value, and a y-coordinate range for the graph ranging from an arbitrary y-minimum value to an arbitrary y-maximum value;

a logarithmic axis setting unit for selecting whether to set at least one of x- and y-axes as corresponding logarithmic x- and y-axes;

an x-logarithmic scale number determining unit for, when the x-axis is selected to be set as the logarithmic x-axis, determining a number of logarithmic scales for the x-axis, based on a number obtained by calculating a difference between a logarithm of the x-minimum value and a logarithm of the x-maximum value and converting the calculated difference to an integer;

an x-logarithmic scale plotting unit for plotting the determined number of logarithmic scales for the x-coordinate range;

a y-logarithmic scale number determining unit for, when the y-axis is selected to be set as the logarithmic y-axis,

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determining a number of logarithmic scales for the y-axis, based on a number obtained by calculating a difference between a logarithm of the y-minimum value and a logarithm of the y-maximum value and converting the calculated difference to an integer;

a y-logarithmic scale plotting unit for plotting the determined number of logarithmic scales for the y-coordinate range; and

a logarithmic graph plotting unit for plotting on a display screen a logarithmic graph corresponding to the plotted logarithmic scales corresponding to the selected at least one of the x- and y-axes.